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DES MOINES, IA 50309-3993

EXAMINER

JUNG, MIN

ART UNIT

PAPER NUMBER

2663

DATE MAILED: 01/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/037,186

Applicant(s)

SCHWADERER ET AL.

Examiner

Min Jung

Art Unit

2663

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 04 January 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 27 is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-9 and 12 is/are rejected.
- 7) ☒ Claim(s) 4, 10, 11 and 13-26 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 January 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "configuration and status register block having a common section and a port specific section----"; "queuing structure" comprising "a receive free pull queue", "a receive queue", "a receive free push queue", "a transmit free pull queue", "a transmit queue", "a transmit done push queue", "a transmit done pull queue", and "a transmit free push queue"; "interrupt event and mask registers", "a secondary computing element command register", 'CSR block being Ethernet/ATM specific and comprising a physical address component and a transmitter and receiver control register'; "a next buffer descriptor field", "control/status field", etc, etc.; "a forwarding table manager", etc. must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for

consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1-3, 5, 7, 8, and 12 are rejected under 35 U.S.C. 102(e) as being anticipated by Wolrich et al., US 6,976,095 (Wolrich).

Wolrich discloses a port blocking technique for maintaining receive packet ordering for a multiple Ethernet port switch. Specifically regarding the present claims 1 and 12, Wolrich teaches an interface for enabling communication between a primary and a secondary computing elements of a multiple element computer system, comprising: a multiple element computing system having a primary computing element (processor core 23) and a secondary computing element (microengines 22); and a configuration and status register (CSR) block having a common section and a port specific section for enabling the exchange of buffer descriptors between the primary and the secondary computing elements (I/O bus interface 28 of Fig. 1 and 4, including CSRs 138, TFIFO 134 and RFIFO 136)), wherein the buffer descriptors contain information identifying underlying information packets to be processed on the computer system. See col. 5, lines 15-26.

Further regarding claims 2 and 3, Wolrich teaches the invention by teaching the receive FIFO 136 (FIFO queue) including data buffers for holding data received from the Fbus 132 and is read by the microengines 22, and the transmit FIFO 134 (FIFO queue) including data buffers that hold data to be transmitted to the Fbus 132 and is written by the microengines 22.

Further regarding claim 5, Wolrich teaches interrupt registers included within the CSR thereby teaching an interrupt signal (vector). See col. 5, lines 47-53.

Further regarding claim 7, Wolrich teaches a secondary computing element command register (the receive FIFO 136 is read by the microengines 22, col. 5, lines 21-23).

Further regarding claim 8, Wolrich teaches Ethernet MAC 30 interfaced to the processor system 12. See Fig. 1, and col. 2, lines 55-60.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 6 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wolrich.

Regarding claim 6, Wolrich teaches an interrupt register and a mask register. See col. 5, lines 47-58, and col. 4, lines 59-64. However, Wolrich fails to specifically teach that the mask register determines if the interrupts are sent to the primary computing element. Wolrich teaches the operation of receive and assignment of threads using SCR and several different kinds of registers including interrupt register and a mask register as described in col. 4, line 15 – col. 5, line 58. Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to specifically assign to the mask register the function of determining if the interrupts are sent to the primary computing element in order to keep track of interrupt signal delivery.

Regarding claim 9, Wolrich fails to specifically teach that the CSR block may be ATM specific. Wolrich instead teaches that the CSR being connected to serve Ethernet MAC as shown in Fig. 1. Both ATM and Ethernet are well known network

implementation in the filed of the invention, and therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to implement the interface of Wolrich to include a CSR block specifically to operate on ATM protocol.

### ***Allowable Subject Matter***

6. Claims 4, 10, 11, and 13-26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. Claim 27 is allowed.

8. The following is a statement of reasons for the indication of allowable subject matter: Prior art fail to teach or fairly suggest an interface as recited in the present invention specifically including the features of the queuing structure as recited, the receive buffer descriptors as recited, and the table building and table searching scheme as recited.

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Hooper et al. patent, the Adiletta et al. patent, the Wolrich et al. PG Pub., the Rosenbluth et al. PG Pub., and the Choe PG Pub. Are cited for further references.


10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Min Jung whose telephone number is 571-272-3127.

The examiner can normally be reached on Monday through Friday 9:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on 571-272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MJ  
January 20, 2006

  
Min Jung  
Primary Examiner